

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 36 and 37 are requested to be canceled without prejudice or disclaimer.

Claims 31-35, 39-41, 45-46, 48-52, 56, 61 and 63 are currently being amended.

Claim 65 is being added.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 31-35, 38-41, 43, 45, 46, 48-57, 59, 61-65 are now pending in this application.

Rejections under 35 U.S.C. § 112, first paragraph

Claims 31-41, 43, 45-46, 48-57, 59 and 61-64 were rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to comply with the enablement requirement. Specifically, the Examiner alleges that the recitation of a “fixed delay communication channel” is unclear. As to canceled claims 36 and 37, the rejection is moot. Applicant has amended independent claims 31, 32, 56 and 61 to more clearly recite the claimed invention. Support for these amendments can be found in the originally filed specification and drawings at, for example, page 15, lines 1-3. Accordingly, the rejection under 35 U.S.C. § 112 should now be withdrawn.

Rejections under 35 U.S.C. § 112, second paragraph

Claim 56 was rejected under 35 U.S.C. § 112, second paragraph, as allegedly lacking proper antecedent basis. Applicant has amended claim 56 to provide proper antecedent basis. Accordingly, Applicant respectfully requests this rejection be withdrawn.

Rejections under 35 U.S.C. § 102

Claims 31-37, 39-41, 43, 46, 50, 52, 56-57, 59 and 61-64 were rejected under 35 U.S.C. § 102 (b) as allegedly being anticipated by U.S. Patent Publication Number 2002/0098849 to Bloebaum *et al.* (hereinafter “Bloebaum”). As to canceled claims 36 and 37, the rejection is moot. Applicant respectfully traverses the rejection of the remaining claims for at least the following reasons.

As noted by Applicant in a previous reply, embodiments of the present invention relate to a mobile communication device and satellite positioning device to be adjacently coupled for receiving and transmitting timing and location information. In one embodiment, this is accomplished through usage of a fixed delay channel. This channel can produce an advantageous effect. For example, as described in the specification, “the eSCO channel communication system allows both the master and slave devices to determine when the information was sent and, therefore, any transmission delay may be accounted for.” Specification, paragraph [0058]. Thus, embodiments of the present invention produce more accurate timing information at the satellite positioning receiver, which then produces quicker and better estimates of the actual positional estimate. Accordingly, independent claim 31 has been amended to recite a wireless transmitter configured to “directly transmit the at least one of the timing information and location information to an adjacent satellite positioning device.” Applicant has further amended independent claims 31, 32 and 56 and 61 to more clearly recite this feature.

Bloebaum fails to teach or suggest at least this feature of the independent claims. Bloebaum discloses a system in which a mobile communication devices connect to a central communication network in order to share data. Specifically, in accordance with the disclosure of Bloebaum, the communication devices act as both clients and servers in order to GPS assistance data. Accordingly, the devices themselves intercept GPS data from a satellite device, and then transmit the information to a base station. The base stations are in communication with a core network which handles the location information and communication with other devices within the area. Each device in communication with the base station may then be provided such information from the core network, as requested. See

Bloebaum, Figure 1; and paragraph [0019]. Accordingly, one communication device may compute and determine location and timing information as provided by data from other communication devices communicating with the core network. By contrast, embodiments of the present invention aim to utilize device-to-device communication in order to provide more accurate and current location and timing information and to enable the adjacent devices to account for delays relating to the communication of the timing and/or location information. Thus, Blaebaum fails to teach or suggest at least these features of the pending claims and, therefore, does not anticipate the claims.

Rejections under 35 U.S.C. § 103

Claims 31-41, 43, 45-46, 48-57, 59 and 61-64 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication Number 2003/0221010 to Yoneya (hereinafter “Yoneya”) over U.S. Patent Publication Number 2001/00487746 to Koorapaty (hereinafter “Koorapaty”) or U.S. Patent No. 6, 427, 120 to Garin et al. (herinafter “Garin”). As to canceled claims 36 and 37, the rejection is moot. Applicant respectfully traverses the rejection of the remaining claims for at least the following reasons.

As disclosed above, embodiments of the present invention allow for concise and current location and timing information to be communicated through a determined delay channel between to adjacent devices. None of the cited art provides such a feature.

Yoneya discloses a wireless connection between a mobile device (CL222) and a GPS receiver (Grv). See Yoneya, Figure 2. Specifically, Yoneya describes a wireless portable terminal, such as a PDA Bluetooth, connected to the GPS receiver. See Yoneya, paragraph [0708]. However, there is no disclosure of a wireless transmitter further configured to transmit to an adjacent satellite positioning device to account for timing and location delays, nor the use a determined delay communication channel to do so. As known in the art, a Bluetooth connection, in standard form, does not include such a communication channel. In addition, Yoneya fails to teach or suggest such capabilities.

Koorapaty fails to cure the deficiencies of Yoneya. Instead, Koorapaty discloses a GPS equipped cell phone receiving assistance from a server. In accordance with the

disclosure of Koorapaty, it is the server that is connected to a GPS receiver. Similar to Bloebaum, the cell phone receives the assistance through a cellular network via the local radio base station. See e.g., Koorapaty, Figure 1. In accordance with the disclosure of Koorapaty, the assistance includes receiving an approximate GPS time from the server. (Koorapaty, paragraph [0014]). In fact, using the fixed server within the disclosure of Koorapaty would be more susceptible to any change in the mobile device location as any mobile device motion delay would not be accounted for.

Further, Garin also fails to cure the above-noted deficiencies of Koorapaty and Yoneya. Garin discloses a multi-mode GPS system, which functions in such different modes so as to provide the GPS information when the device is located within lower bandwidth, a different network, or specified system requirements. The Examiner refers to the “Network Aided” approach as relating to the features of the pending claims. However, the GPS receiver of Garin is merely utilizing such aid from a wireless communication network when it has limited or no ability to acquire a signal itself. As disclosed in Garin:

“the Network Aided mode is typically only used for acquisition of the GPS signal in weak signal environments. Once the GPS signal is acquired, the GPS receiver of the present invention can track the GPS signal without aid from the network.”

Garin, col. 7, lines 33-37. Further, regarding the E911 calls, Garin fails to teach or suggest any type of such transmitted information (e.g., timing and location) or the fixed channel delay to communicate such information. Rather, Garin merely discloses that network information may be included with the GPS calculation. Thus, Garin fails to teach or suggest transmitting both timing and location information across fixed delay channel, as recited in the pending claims.

The Examiner further argues the relevance of both U.S. Publication Number 200100487746 to Dooley (hereinafter “Dooley”) and U.S. Patent Number to 6,768,450 to Walters (hereinafter “Walters”) to be considered by Applicant. Applicant believes that both these references fail to teach or suggest the features of the pending claims and, therefore, do not affect the patentability of the pending claims.

Dooley discloses a method in which a location estimate is calculated for a first and through usage of estimates at a second device. When in close proximity to each other, the first device and second device, utilizing a connection such as Bluetooth, are able to provide a reasonable degree of accuracy. See Dooley, paragraph [0015]. This highlights the shortcomings of the disclosed methods of Dooley in that the devices must be within short range proximity in order reach such accuracy. Further, Dooley fails to teach or suggest the determined delay communication channel which allows for adjacent devices to account for determined transmission delays and inaccuracies in order to provide a more accurate and quick location and timing result. Without such a channel, the location information would be subject multiple path environments common in urban environments. Thus, Dooley fails to teach or suggest the features of the pending claims.

Walters discloses a method of providing location information between two devices, one being a GPS device. The GPS device communicates with the portable electronic device preferably through short range transmission in order to provide similar functionality to the portable device. Walters provides such methods as infrared, unlicensed radio or optical data transmission for such communication. Walters fails to teach or suggest the determined delay communication channel, accounting for the delays in timing and location information as disclosed above. Therefore, Walters also fails to teach or suggest the features of the pending claims.

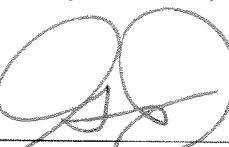
Thus, the cited references, either alone or in combination, fail to teach or suggest each feature of the pending claims. Accordingly, independent claims 31, 32, 56 and 61 are patentable. Claims 33-35, 38-41, 43, 45-46, 48-55, 57, 59 and 62-64 each depend, either directly or indirectly, from one of allowable claims 31, 32, 56 or 61 and are, therefore, patentable for at least that reason, as well as for additional patentable features when those claims are considered as a whole.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

By 

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